

FLUSH VALVE DIAPHRAGM ORIFICE INSERT AND RIB DESIGN

ABSTRACT OF THE INVENTION

A diaphragm assembly for use in conventional diaphragm-type flush valves includes a flexible diaphragm body having a first side and a second side and a bypass orifice filter insert defined in the diaphragm body. The second side of the diaphragm body includes an annular protrusion and a plurality of protruding ribs, wherein a recess area is defined between the rib and the protrusion. When a pressure difference is applied across the diaphragm body, the second side of the diaphragm body is concave and the first side of the diaphragm body is convex, whereby a distance between the rib and the protrusion decreases in order to prevent the diaphragm body from closing too quickly against a valve seat of a flush valve. A method for controlling pressure differences across the diaphragm body is also disclosed.